

ABSTRACT

Method and system for soft handoff of a mobile terminal in a wireless CDMA IP network which utilize IP multicasting to a plurality of multicast network interface participants that reside at the mobile terminal. A soft handoff multicast protocol is used to assign a unique IP multicasting address to the mobile terminal and establish a plurality of multicast participants that reside at the mobile terminal, thereby creating corresponding multicast network connections between the IP network and the mobile terminal. The IP network simultaneously transmits information to the mobile terminal via the multicast network connections by broadcasting the information as a multicast message to the mobile terminal's multicast group. The mobile terminal simultaneously transmits information to the IP network via the multicast network connections by instructing its multicast participants residing at the mobile terminal to respond to the sender of the multicast message. The soft handoff multicast protocol creates, maintains and terminates multicast network connections and multicast participants at the mobile terminal by broadcasting "join" and "leave" messages from multicast IP network interfaces that reside at the mobile terminal. The mobile terminal aggregates received multicast IP data packets at the physical layer before passing the IP data to the application layer. The IP network aggregates received multicast IP data packets or selects received multicast IP data packets at the physical layer before passing the IP data to the application layer. Finally, CDMA pilot signals are determined as satisfactory or unsatisfactory to maintain and create new multicast network connections between the mobile terminal and IP network base stations.